

WHAT IS CLAIMED IS:

1. An optical scanning device comprising:

a light source;

forwardly deflecting optical set including a first
5 lens for providing light beams from said light source
with a predetermined characteristic, and a second lens
for converging said light beams from said first lens in
a first direction;

a polygonal mirror unit for deflecting the light
10 beams from said forwardly deflecting optical set into a
second direction substantially perpendicular to said
first direction;

a third lens for forming the light beams deflected
by said polygonal mirror unit as an image onto a
15 predetermined image surface at substantially equal
speed;

wherein said second lens includes a resin lens and
a glass cylinder lens made of glass having a positive
power in said first direction and wherein the resin
20 lens of said second lens having a surface whose radius
of curvature in said first direction is varied along
said first direction.

2. An optical scanning device comprising:

a light source;

forwardly deflecting optical set including a first
25 lens for providing light beams from said light source
with a predetermined characteristic, and a second lens

00660-225960

48

for converging said light beams from said first lens in a first direction;

a polygonal mirror unit for deflecting the light beams from said forwardly deflecting optical set into a second direction substantially perpendicular to said first direction;

a third lens for forming the light beams deflected by said polygonal mirror unit as an image onto a predetermined image surface at substantially equal speed;

wherein said third lens having a positive power in said second direction, and the second lens having a power in the second direction.

3. The optical scanning device according to claim 2, wherein the power of said second lens in said second direction is negative.

4. The optical scanning device according to claim 2, wherein the resin lens of said second lens having a surface whose radius of curvature in said second direction is varied along said first direction.

5. An optical scanning device comprising:
a light source;

forwardly deflecting optical set including a first lens for providing light beams from said light source with a predetermined characteristic, and a second lens for converging said light beams from said first lens in a first direction;

Sub,
E, Cmt

a polygonal mirror unit for deflecting the light beams from said forwardly deflecting optical set into a second direction substantially perpendicular to said first direction;

5 a third lens for forming the light beams deflected by said polygonal mirror unit as an image onto a predetermined image surface at substantially equal speed;

10 wherein said second lens includes a resin lens including a surface having a negative power in said first direction, and a glass lens including one convex surface having a positive power in said first direction,

15 said resin lens of said second lens includes a projection which abuts in a direction of said convex surface of said glass lens, and wherein the projection of said resin lens and said glass cylinder lens contact with each other.

20 6. The optical scanning device according to claim 5, wherein the resin lens of said second lens having a surface that is in contact with said convex surface of said glass lens in a region through which the light beams does not pass and provided at its side closer to said convex surface of said glass lens with a surface of a curvature different from a curvature of
25 said convex surface of said glass in a region through which the light beams pass.

7. An optical scanning device comprising:

Sub
E-
C-1

5 a light source;
forwardly deflecting optical set including a first
lens for providing light beams from said light source
with a predetermined characteristic, and a second lens
for converging said light beams from said first lens in
a first direction;

10 a polygonal mirror unit for deflecting the light
beams from said forwardly deflecting optical set into a
second direction substantially perpendicular to said
first direction;

a third lens for forming the light beams deflected
by said polygonal mirror unit as an image onto a
predetermined image surface at substantially equal
speed;

15 wherein said second lens includes a resin lens
including a surface having a negative power in said
first direction, and a glass lens including one convex
surface having a positive power in said first direction,

20 a deformable sheet having a substantially constant
thickness is provided between said resin lens and said
glass cylinder lens, and each of said resin lens and
said glass cylinder lens has a space portion when both
the lenses come into contact with each other.

add
A20
add
B-1

51

00665477-004000